Original Research Article

A cross-sectional study on knowledge and practices regarding prevention of COVID-19 among hospital personnel in a tertiary care hospital of Karimnagar, Telangana

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Abstract

Background: The world is currently witnessing a global pandemic of COVID-19. Due to the highly contagious nature of the virus and the exponential growth of infections observed in many countries, a high level of compliance with prevention guidelines is necessary to reduce the cases and slow the spread of the virus. In spite of this, there have been numerous reported instances of people ignoring these instructions all over the world, likely exacerbating the problem. To study the prevalence of ignorance of precautions in Healthcare workers, a study was conducted in a tertiary care hospital of Karimnagar. **Material and Methods:** A cross-sectional observational study was done in a tertiary care hospital of Karimnagar on Hospital personnel present on a regular workday in July 2020. Permission to conduct the study was obtained from the IEC of Chalmeda Ananda Rao Institute of Medical Sciences. All personnel present on the day of the study and consenting to participate were included in the study. A pretested structured questionnaire was used to collect data regarding knowledge, attitude and practices regarding prevention of COVID 19 by interviewing the personnel. The data obtained was analyzed using SPSS v16.0. **Results:** A total 138 members participated in the study. 52.2% could identify who need isolation while 37.7% were able to correctly identify who needs quarantine. 78.3% could correctly identify all the prevention measures of COVID-19. 7.2% of participants were not strictly sanitizing hands every time after touching objects. 44.9% were always conscious about touching their faces. 34% of participants religiously sanitized routinely handled objects after every use. **Conclusion:** Health personnel are adequately aware of measures of preventing COVID 19 but not strictly adhering to practicing them even during the peak of the pandemic, though they are at the highest risk of being infected.

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INTRODUCTION

The World Health Organization (WHO) declared the SARS-CoV-2 outbreak as a Public Health Emergency of International Concern on the 30th of January 2020 and then declared it a pandemic of global proportions on the 11th of March 2020, as a result of the worldwide spread of COVID-19[1]. According to the worldometer (updated: Feb 3, 2021), SARS-CoV-2 has affected 219 countries and territories around the world. The world has recorded 10,44,47,241 cases and 22, 64,087 deaths so far due to COVID-19. The World Health Organization (WHO) rapidly developed advice to meet the need for recommendations of safe home care for patients with suspected SARS-CoV-2 infection presenting with mild symptoms as well as public health measures related to management of asymptomatic contacts, while the Centers for Disease Control and Prevention (CDC) also published a guide with criteria for the evaluation of patients under

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investigation for SARS-CoV-2. Health care workers in particular are extremely vulnerable to SARS-CoV-2 infection since they are frequently in contact with COVID-19 patients[2]. In some countries as much as 10% of health care workers are infected with SARS-CoV-2 and the WHO has outlined the need for training of health care workers in order to reduce the rates of infection[2]. Health workers are at risk on dual fronts – Due to occupational exposure for long hours to a large number of patients in the hospitals. While others are being infected outside hospitals, in their homes or communities[2]. Due to the highly contagious nature of the virus and the exponential growth of infections observed in many countries, a high level of compliance with prevention guidelines is necessary to reduce the cases and slow the spread of the virus. In spite of this, there have been numerous reported instances of people ignoring these instructions all over the world, likely exacerbating the problem. In order to study the adherence and ignorance of precautions in Healthcare workers, a study was conducted in a tertiary care hospital of Karimnagar with the aim of assessing the knowledge regarding prevention and control of COVID 19 infection in the Hospital Personnel, the level of their adherence and ignorance of preventive measures and to determine the attitude of the hospital personnel with regards to continuation of preventive behaviors post the relaxation of the pandemic restrictions.

MATERIAL AND METHODS

A cross-sectional observational study was designed to study the knowledge, attitude and practices regarding prevention of COVID 19 in the Hospital personnel working at a tertiary care hospital of Karimnagar. Permission to conduct the study was obtained from the IEC of Chalmeda Ananda Rao Institute of Medical Sciences. All Hospital personnel present on a regular workday in July 2020 were included in the study. A total of 138 personnel participated in the study after obtaining their informed consent. Hospital personnel absent on the day of study, those posted within the COVID isolation chambers, COVID testing facilities and the ICU on the day of study were excluded from the study. A pretested structured questionnaire containing queries regarding socio-demographic characteristics, knowledge regarding COVID-19 and measures for its prevention based on the then effective recommendations by the CDC, WHO, and Ministry of Health and Family Welfare of India was used to collect data regarding knowledge, attitude and practices regarding prevention of COVID 19 by interviewing the personnel. The data obtained was analyzed using SPSS v16.0.

RESULTS

A total of 138 health personnel who fulfilled the inclusion and exclusion criteria participated in this study. 87 (63%) of the participants were medical students – interns (47.1%), Post graduate trainees (15.9%); while the rest were Nursing Staff (13.8%), Lab technicians (13%) and Paramedical staff (10.1%). The mean age of the study participants was 23.87 years (SD = 2.65). Majority of the participants were male (55.8%). Majority of the participants belonged to upper ad upper middle classes under Modified BG prasad's scale of Socioeconomic status while 11.6% were from middle class.

Knowledge regarding COVID 19

103 (74.6%) of the participants could identify the symptoms of COVID correctly. 124 (89.9%) participants stated that SARS COV 2 virus can infect all ages. 103 (74.6%) participants correctly answered that complications and fatality is higher in elderly and people with comorbidities. 81.2% could correctly establish that SARS COV 2 virus is transmitted by droplets, while some of the them also identified airborne transmission (44.2%), Physical contact (21%) and food borne route of transmission (21%) a mode of spread of the virus.

Knowledge regarding measures to control COVID 19

Due to the rapidly changing guidelines for quarantine and isolation being issued by the Health authorities, it was found that only 72 (47.8%) of the study participants could correctly identify the criteria for Isolation and even fewer of the study participants – only 37.7% could correctly identify clearly the criteria for isolation in COVID 19.

Knowledge regarding measures to prevent COVID 19

121 (87.9%) of the study participants could correctly identify all the measures for prevention of COVID 19.

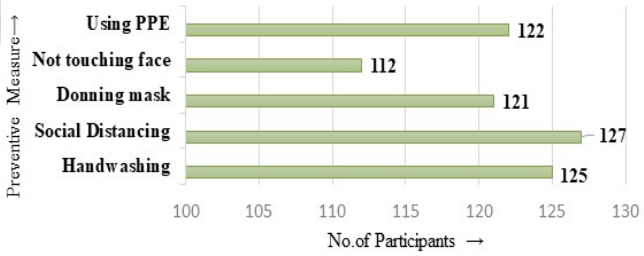

Figure 1: Knowledge regarding measures to prevent COVID 19

Knowledge regarding technical support provided by the Health Authorities in India

The Government of India had established a toll-free helpline number (1075) that everyone could call for all information and queries regarding COVID 19 and had widely publicized this number through various methods like social media platforms, News, Print media and Health education measures. Out of the total study participants of 138, 81 (58.7%) of the participants knew the toll-free

helpline number set up by the Govt for queries and support regarding COVID 19, 40 (29%) of them were aware of the existence of a helpline, but didn't know the helpline number; whereas 17 (12.3%) of them were not aware that there is a separate helpline.

Practice of Measures of Prevention of COVID 19

Table 1: Practice of Preventive measures of COVID 19 by study Participants

Preventive Measure		Frequency (%)
Sanitizing hands religiously after touching any objects	Yes	128 (92.8)
	No	10 (7.2)
Social distancing practised in all places outside home	Maintaining 1 meter or more	134 (97.1)
	Maintaining less than 1 meter	04 (2.9)
Wear mask compulsorily when going out of house or meeting other people	Always	110 (79.7)
	Most of the times	18 (13)
	Some times	8 (5.8)
	Never	2 (1.4)
Consciously avoid touching face at all times	Always	62 (44.9)
	Most of the times	50 (36.2)
	Some times	17 (12.3)
	Never	9 (6.5)
Frequency of sanitizing objects of daily use like Mobiles, Keys, Pens, etc	After every use	47 (34.1)
	2 to 3 times in a day	27 (19.6)
	At the end of the day	30 (21.7)
	Whenever I remember	22 (15.9)
	Not at all	12 (8.7)
Total		**138 (100)**

Self-reported practice (93%) regarding hand hygiene was high among the study participants. 79.7% adhere to good practice of the COVID 19 preventive measures, irrespective of whether they are inside the hospital or outside.

Attitude towards maintenance of preventive behaviours learnt from COVID 19

The participants were asked whether they will continue maintaining the preventive behaviours learnt to prevent being infected by COVID 19 in the future, once the lockdown and other compulsory measures are withdrawn by the Government. Attitude towards continuation of preventive behaviours acquired during the pandemic reduced to 64.5% following removal of mandatory restrictions.

Table 2: Attitude towards maintenance of preventive behaviours learnt from COVID 19

Preventive Behaviour		Frequency (%)
Use of mask whenever there is an episode of Cough or cold	Yes	106 (76.8)
	May be	23 (16.7)
	No	9 (6.5)
Use alternate methods of greeting each other that do not involve person to person contact	Yes	31 (22.5)
	May be	46 (33.3)
	No	61 (44.2)
Maintain social distance at crowded places	Yes	83 (60.1)
	May be	44 (31.9)
	No	11 (8)
Changes made in everyday personal hygiene	Yes	112 (81.2)
	May be	24 (17.4)
	No	2 (1.4)
Changes made in routine household and peri-domestic sanitation	Yes	112 (81.2)
	May be	24 (17.4)
	No	2 (1.4)
Total		**138 (100)**

DISCUSSION

Healthcare workers should perform appropriate hand hygiene, either with an alcohol based hand rub or soap and water, whichever is easily available and accessible near the work station before and after all patient contact, contact with potentially infectious material, and before putting on and after removing PPE, including gloves.[3,4] Prabina *et al.* in their study in health care workers in Nepal reported that both awareness (89.2%)as well as self-reported practice (91%) regarding hand hygiene was high among the study

participants.[5] Similar findings have been observed in the current study – awareness (91%) and practice (93%). In the current study on Healthcare workers in a tertiary Hospital of Karimnagar, 81.2% said SARS COV -2 spreads by droplets, 21% said it can be transmitted by food and 91% were aware that hand washing and hand sanitization reduces risk of infection with SARS COV 2. A study done by Dimitrios Papagiannis *et al.* on Health-care Professionals in Greece, reported that 96.4% of participants said COVID 19 spreads by droplets and 52.6% agreed that it also spreads by food. 94.2% were aware that hand washing and hand sanitization reduces risk of infection with SARS COV 2.[6] In the current study, 74.6% could identify the symptoms of COVID correctly, 74.6% correctly answered who were susceptible for complications. COVID spreads by droplets say 81.2% and 87.7% aware that masks prevent infection. Also 79.7% wore mask outside their homes. A cross sectional study by Bates *et al.* on general public in Ecuador[7] regarding knowledge, attitudes and practices towards COVID-19 during the Outbreak showed that 75% could identify and correctly recall symptoms of COVID, 69.8% could correctly tell who can get complications and die of COVID. COVID spreads by droplets say 91.5% of Ecuadorians and 47.2% aware that masks prevent infection while 93.2% wore a mask when leaving home. Mustafa *et al.* study on general public in Iraq[8] reported that 94.4% aware about preventive measures for COVID 19, 98% aware that avoiding touching face with unclean hands prevents COVID 19 and 60% of people have a good knowledge committed with the preventive protocol while 40% of the did not follow the preventive protocol despite their good knowledge of the disease. Comparatively, in the current study- 87.9% could identify all preventive measures of COVID correctly and 81.2% aware that avoiding touching face with unclean hands prevents COVID 19 while 81.7% had a good knowledge of the disease and its preventive measures and 79.7% practise the preventive measures.

CONCLUSION

In the current study, 74.6% of study participants could identify the symptoms of COVID-19 correctly while 87.9% could identify all preventive measures of COVID - 19 correctly. Awareness (91%) as well as self-reported practice (93%) regarding hand hygiene was high among the study participants. 81.7% had a good knowledge of the disease transmission and its preventive measures but only 79.7% practise the preventive measures. Attitude towards continuation of preventive behaviours acquired during the ongoing pandemic reduced to 64.5% following removal of mandatory restrictions. It is clear from the above that Knowledge and awareness regarding COVID-19 is adequate in the study participants and is on par with healthcare professionals around the world. The actual practice of preventive measures is low compared to the extent of knowledge of the disease, especially practice of preventive measures when outside the health care facility. The reluctance of majority to maintain the Behaviour change following removal of restrictions may not be a good sign towards the goal of ending the pandemic.

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